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ABSTRACT

During the 1975-76 school year the Nystrom Map and Globe Study Skills Program was pilot tested by approximately 1,400 students in three elementary schools in Spokane, Washington. The program is a continuous progress program based upon a series of sequential instructional objectives. Major objectives of the program were to help students develop basic map skills and to learn basic geographic concepts. The evaluation was based on a teacher inventory and testing of primary and intermediate grade students. Teachers identified high levels of student participation and good organization of materials as program strengths. They identified scheduling problems with only one set of materials per building and durability of some of the globes as program weaknesses. On a student posttest, primary students answered correctly over 90% of the items. Fourth graders made the largest gains between pre- and posttesting: their scores improved an average of 45%. Fifth graders' scores improved 33% and sixth graders' scores improved 40%. In general, the test results indicated satisfactory student progress toward attainment of program objectives. (Author/AV)

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AN EVALUATION OF THE NYSTROM MAP AND GLOBE STUDY SKILLS PROGRAM

Evaluation and Research
Program Development Division
Spokane School District

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Edward E. Hammond

EVALUATION ABSTRACT

During the 1975-76 school year the Nystrom Map and Globe Study Skills Program was piloted in three Spokane District 81 elementary schools. The map and globe program was used in grades 1-6 by approximately 1,400 students. The materials were used in each school for nine weeks.

The evaluation of the Nystrom Map and Globe Study Skills Program was based on two elements: teacher inventory and testing of primary and intermediate grade students.

Teacher Inventory

The Teacher Inventory was developed and administered to identify program strengths and weaknesses. Teachers indicated the program goals were clearly stated and reflected in the activities. Program strengths appeared to be the "hands on" approach and the well organized materials. Program weaknesses encountered during the pilot included scheduling problems and durability of some of the globes. Overall teachers rated the program as being good, very good, or excellent.

Test Results

The primary students tested were able to correctly answer over 90 percent of the items corresponding to introductory map and globe objectives. Third graders correctly answered over 50 percent of the direction and comparison related items.

At the intermediate level, fourth grade students made the largest gains between pre and post testing. These students improved their pre test score an average of 45 percent. Improvement at the fifth grade level was 33 percent and at the sixth grade level was 40 percent. Overall the intermediate grade students could answer an average of 49 percent of the items correctly when pre tested and 67 percent of the items correctly when post tested. This was an average improvement of 38 percent.

AN EVALUATION OF THE NYSTROM

MAP AND GLOBE STUDY SKILLS PROGRAM

I. INTRODUCTION

During the 1975-76 school year the Nystrom Map and Globe Study Skills Program was piloted in three Spokane District 81 elementary schools. The Nystrom program is a continuous progress program based upon a series of sequential instructional objectives. It was developed for the purpose of helping students learn about the basic skills of map reading and some of the elements of geography.

The map and globe program was used in grades 1-6 by approximately 1,400 students. The materials were used in each school for nine weeks. Each pilot school was located in a different socio-economic community. The Nystrom program was used in the school located in a high socio-economic community at the beginning of the year, in the school located in a middle socio-economic community in the middle of the year, and in the school located in a low socio-economic community toward the end of the year.

The evaluation of the Nystrom Map and Globe Study Skills Program was based on two elements: teacher inventory and testing of primary and intermediate grade students. A control group was not used in this evaluation because (1) the District does not have a consistent map and globe curriculum with which to compare the Nystrom program, and (2) the major evaluative instrument used in this study was developed for use with the Nystrom materials as a diagnostic instrument and, therefore, would probably favor those materials.

II. TEACHER INVENTORY RESULTS

Purpose and Procedure

The Teacher Inventory was developed and administered to identify program strengths and weaknesses. The inventory contained items related to program goals and objectives, experiences students encountered, and teacher use of the program. Teacher Inventories were administered to each of the teachers who used the program at the three schools.

Results

Program Goals and Objectives

Teachers using the map and globe materials were asked to indicate how well they believed the goals and objectives of the program were clearly stated in the materials and reflected in the activities. These results are shown in Table 1.

TABLE 1

Teacher Ratings of Program Goals and Objectives
N=26

Category	Distribution of Ratings in Percent						Mean Ratings
	Very Little					A Great Deal	
	1	2	3	4	5	6	
Degree to which goals and objectives of materials are clearly stated.	0	0	12	15	38	35	5.0
Degree to which goals and objectives of materials are reflected in activities.	0	0	0	28	40	32	5.0

The teachers indicated the goals and objectives of the materials were clearly stated with a mean rating of 5.0 on the six point continuum. The teachers also indicated that they believed the goals and objectives were adequately reflected in the activities with a mean rating of 5.0.

Experiences Provided

The teachers using the Nystrom Map and Globe Study Skills Program were asked to indicate how well they believed the program provided the children with pertinent experiences in listening, following directions, visual perception, auditory perception, and word meaning. The results of these ratings are shown in Table 2.

TABLE 2

Teacher Ratings of Experiences
N=26

Experience	Distribution of Ratings in Percent						Mean Ratings
	Very Little					A Great Deal	
	1	2	3	4	5	6	
Listening	0	0	0	12	46	42	5.3
Following Directions	0	0	0	27	35	38	5.1
Visual Perceptions	0	0	0	38	31	31	4.9
Auditory Perception	0	0	0	27	46	27	5.0
Word Meaning	0	0	4	38	43	15	4.7

Teachers rated the experiences provided in the area of listening the highest with an average rating of 5.3. Experiences in following directions (5.1), auditory perception (5.0), and visual perception (4.9) were rated at about 5.0 on the six point continuum. Teachers rated the experiences provided in the area of word meaning the lowest with an average rating of 4.7.

Program Strengths

Teachers were asked to identify any outstanding program strengths. Following is a list of the strengths most often identified.

TABLE 3

Program Strengths Identified by the Teachers

Number of Responses	Strengths Identified
14	Provide hands on materials for each child, attractive
6	Well organized, good way to present materials
2	Excellent materials (tapes, maps, globes)
2	Students understand concepts
2	Students like working in pairs

Teachers indicated the strengths of the Nystrom program were the "hands-on" experiences, attractive materials, and organization of the materials.

Program Weaknesses

Teachers using the map and globe materials were asked to identify any program weaknesses. The following table contains a listing of the weaknesses they identified.

TABLE 4

Program Weaknesses Identified by Teachers

Number of Responses	Weaknesses Identified
4	Some difficulty in scheduling materials with other teachers
3	Rivets on some of the globes did not hold
2	Need more practice time
2	Working in pairs was not satisfactory

Teachers indicated that they experienced some problems in scheduling materials. Materials were placed in each building involved in the pilot study for nine weeks. This time restriction caused many of the scheduling problems experienced by the teachers. Also mentioned as a problem was the durability of some of the globes. Nystrom has taken appropriate action to insure that this problem will not reoccur.

Usability and Durability

Teachers were asked to indicate how usable they found the map and globe skills program to be in their classrooms and indicate if they believed the materials to be of sufficient durability for classroom use. These results are contained in the following table.

TABLE 5

Teacher Ratings of Program
Usability and Durability

Category	Distribution of Ratings in Percent						Mean Ratings
	Very Difficult/Weak					Usable/ Durable	
	1	2	3	4	5	6	
Usability (Do the materials require too much teacher time for set-up or direction to be usable.)	0	0	12	46	17	25	4.5
Durability	0	4	4	59	29	4	4.3

Teachers rated the usability of the materials at 4.5 on the six point continuum. Further analysis of the results indicated that high usability ratings (ratings of five or six) tended to come from intermediate grade teachers (grades four, five and six) while lower ratings (ratings of three or four) tended to come from primary grade teachers (grades one, two and three). Teachers rated the durability of the materials at 4.3 on the six point continuum. Only one-third of the teachers rated the durability of the materials at 5.0 or above.

Overall Program Rating

The teachers who used the Nystrom Map and Globe Study Skills Program in the three elementary schools were asked to rate the overall program. The ratings are reported in Table 6.

TABLE 6

Overall Map and Globe Skills
Program Ratings

	Distribution of Ratings in Percent					
Response Group	Very Poor	Poor	Fair	Good	Very Good	Excellent
Teachers N=24	0	0	0	25	42	33

All of the teachers rated the map and globe skills programs good, very good, or excellent. One-third of the teachers rated the program excellent.

III. TEST RESULTS

Purpose and Procedure

Tests were developed and administered to primary students in an attempt to assess student progress toward attainment of map and globe skill objectives. The percentage of correct responses is reported for the grades tested at the primary level. Student progress at the intermediate level was measured by pre and post testing the intermediate students with the Nystrom Diagnostic Test. Time span between pre and post testing at each of the schools was approximately nine weeks. Gain scores were computed and reported in percent of increase for the intermediate students.

Primary Test Results

First and second grade students were post tested with items corresponding to introductory map and globe objectives. Third grade students were post tested with items corresponding to objectives in the areas of introduction

to maps and globes, directions, and comparing maps and globes. The correct responses for the primary students tested are reported in the following table.

TABLE 7

Primary Test Results

Objective Category	Percent of Correct Responses		
	Grade 1 N=36	Grade 2 N=55	Grade 3 N=75
Introduction to Maps and Globes	91%	96%	98%
Directions	N/A	N/A	58%
Comparing Maps and Globes	N/A	N/A	50%

N/A - Not Applicable

The primary students tested were able to correctly answer over 90 percent of the items corresponding to introductory map and globe objectives when post tested. Third grade students correctly answered 58 percent of the items corresponding to direction objectives and 50 percent of the items related to map and globe comparison objectives.

Intermediate Test Results

Intermediate students were administered the appropriate levels of the Nystrom Diagnostic Test on a pre and post basis. The time span between pre and post testing at each of the three schools was about nine weeks. Gain scores were computed and reported in percent of increase between pre and post testing for the intermediate students. Table 8 contains these results.

TABLE 8

Intermediate Test Results

Objective Category	Percent of Improvement Between Pre and Post Testing		
	Fourth Grade N=135	Fifth Grade N=185	Sixth Grade N=152
Introduction to Maps and Globes	19%	7%	11%
Directions	55%	25%	23%
Grid Systems	56%	64%	47%
Comparing Maps and Globes	33%	44%	72%
Natural Features	90%	45%	52%
Man-Made Features	45%	55%	57%
Rotation and Revolution	N/A	N/A	64%
Map Interpretation	N/A	N/A	67%
Combined Categories	45%	33%	40%

N/A - Not Applicable

Overall the fourth grade students averaged the largest gain between pre and post testing, a 45 percent increase. Sixth grade students gained 40 percent overall and fifth graders averaged 33 percent increases.

Fourth grade students recorded the largest gains on test items corresponding to objectives in the areas of natural features (90 percent increase), and grid systems (56 percent increase), and directions (55 percent increase). Fifth grade students had the largest gains on test items corresponding to objectives in the areas of grid systems (64 percent increase) and man-made features (55 percent increase). Sixth grade students had the largest gains on test items corresponding to objectives in the areas of comparing maps and globes (72 percent increase), and rotation and revolution (64 percent increase).

When pre tested the intermediate students were able to answer 49 percent of the test items correctly. Nine weeks later when post tested the students were able to answer 67 percent of the test items correctly. This represents an increase in correct responses of about 38 percent.

IV. SUMMARY

The evaluation of the Nystrom Map and Globe Study Skills Program was based on two elements: teacher inventory and test results. The teacher inventory was developed and administered to the teachers who used the map and globe skills program to identify program strengths and weaknesses.

Teachers indicated the program goals were clearly stated and reflected in the activities. They indicated that the program seemed to offer adequate experiences for the students in the areas of listening, following directions, visual perception, auditory perception, and word meaning.

The outstanding strengths of the program appeared to be the "hands on" materials and their attractiveness. Teachers also noted they believed the materials were well organized and presented in a good way.

Program weaknesses centered around scheduling problems and durability of materials. Over twice as many strengths were identified by the teachers as weaknesses. Scheduling problems were probably increased by the nine-week time limit used during the pilot study.

Teachers indicated that they believed the materials did not require too much teacher time for set-up or directions to be usable. The few low usability ratings recorded came from some of the primary teachers. For the most part, intermediate teachers rated the program high on this item.

All of the teachers rated the map and globe study skills program as good, very good, or excellent. One-third of the teachers gave the program an overall rating of excellent.

The primary students tested were able to correctly answer over 90 percent of the items corresponding to introductory map and globe objectives when post tested. Third graders correctly answered over 50 percent of the direction and comparison related items correctly when tested.

At the intermediate level, fourth grade students made the largest gains between pre and post testing. These students improved their pre test score an average of 45 percent. Improvement at the fifth grade level was 33 percent and at the sixth grade level was 40 percent. Overall the intermediate grade students could answer an average of 49 percent of the items correctly when pre tested and 67 percent of the items correctly when post tested. This was an average improvement of 38 percent.

V. FINDINGS AND CONCLUSIONS

1. The teachers who piloted the materials rated the goals and objectives of the Nystrom Map and Globe Study Skills Program highly.

2. The teachers who piloted the materials indicated the program strengths to be "hands on," attractive, well organized materials.

3. The teachers who piloted the materials indicated the weaknessess of the program to be possible scheduling problems with one set of materials per building and possible durability problems with some of the materials.

4. Test results seemed to indicate satisfactory student progress toward attainment of program objectives.

5. Socio-economic levels did not appear to be a significant variable in this study.

VI. RECOMMENDATIONS

Based on teacher input and test results it appears that the Social Studies Development Committee should strongly consider the Nystrom materials when reviewing program alternatives for goals and objectives related to map and globe study skills at the elementary level.